

REMARKS

The present response is intended to be a full and complete response to the Office Action mailed April 1, 2009. Claims 13 to 24 are pending in the present application. Claims 13 – 15 have been amended in this response.

Applicants respectfully request continued examination of Claims 13 to 24 and allowance of all pending claims.

Claim Rejections Under 35 U.S.C. § 112:

Claims 13 - 24 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 has been amended to better define the invention, and in the process the term “thereby resulting in a partially purified gas stream” has been added and thereafter referenced.

This clarifies the Examiner’s presumption that step b) is to occur subsequent to step a). However, the Examiners position regarding this 112 rejection is unclear since at the beginning of the sentence it is noted that the Examiner presumes that step b) acts on the “resulting gas obtained after (a)”, then at the end of the sentence, the Examiner presumes that step b) “is carried out before the step (a)”.

Claim 13, as currently amended, clearly discloses a first catalyst bed then a first adsorption bed, with each treating a separate and distinct impurity. There is nothing in claim 13 that creates the paradox that the Examiner appears to identify.

Claim 14 has been amended to better define the invention, and the term “preferably about 20 to 50 bar” has been deleted, thereby rendering this rejection moot.

Claim 15 has been amended to better define the invention, and proper antecedence for the term "gas hourly space velocity" has been provided, thereby rendering this rejection moot.

Claim Rejections Under 35 U.S.C. § 103:

The Examiner rejects Claims 13 to 15 and 18 to 24 under 35 U.S.C. § 103(a) as being unpatentable over Eijkhoudt et al' 428 in view of Krueger '062 and Bancon et al., '989, optionally further in view of Engelbrecht et al. '100. This rejection is respectfully traversed.

The Examiner notes that Eijkhoudt et al. '428 fails to disclose the step of contacting the gas stream with a catalyst bed to convert at least part of the oxygen and/or at least part of the unsaturated hydrocarbons present in the gas stream to one or more catalysis products. The Examiner suggests variously Krueger '062, Bancon et al. '989 and Engelbrecht et al. '100 as complementary references that remedy this deficiency.

Applicants respectfully submit that there is no motivation to combine these three secondary references with the primary reference. Applicants argue that while it may seem, with the assistance of hindsight, that it would have been obvious to try such a combination, there would have been little reason to presume success and hence such a combination would not have been obvious to one skilled in the art.

Claim 13 of the instant application requires that the subject gas stream have at least four basic components 1) hydrogen, 2) carbon monoxide, 3) at least one metal carbonyl, and 4) either oxygen or an unsaturated hydrocarbon. Claim 13 of the instant application, as currently amended, requires that the second purification bed remove the residual metal carbonyl. Hence, the first purification bed, the one with which the secondary references are primarily concerned with, must accept a gas stream with metal carbonyls, operate safely with such a contaminant, and remove effectively none of these metal carbonyls, as this is the specified function of the second bed.

Neither Kueger '062, Bancon et al. '989 nor Engelbrecht et al. '100 disclose a catalyst bed that comes into contact with a gas stream containing metal carbonyls. None of these secondary references discuss that such a metal carbonyl containing stream would not effect the catalysts present. None of these secondary references discuss that such a metal carbonyl would pass unaffected through such a catalyst bed. It is unclear how one skilled in the art, up on reading and understanding these three secondary references, would presume such an operational detail without significant experimentation. These four references, taken as a collective whole, do not teach nor identify the problem solved by the instant invention, and hence when combined would not render this solution obvious. Hence the rejection is improper and should be vacated.

The Examiner rejects Claims 16 - 17 under 35 U.S.C. § 103(a) as being unpatentable over Eijkhoudt et al' 428 in view of Krueger '062 and Bancon et al., '989, optionally further in view of Engelbrecht et al. '100, and further in view of Koveal et al' 378 and Britton et al. '928. This rejection is respectfully traversed.

As discussed above, Eijkhoudt et al' 428, Krueger '062, Bancon et al. '989, and Engelbrecht et al. '100 fail to disclose the element of the present invention. Koveal et al. '378 and Britton et al. '928 fail to remedy these deficiencies. Hence the rejection is improper and should be vacated.

CONCLUSION

In view of the above, Applicants maintain that Claims 13 to 24 are now in condition for allowance. Early notice to this effect is earnestly solicited. Should the Examiner believe a telephone call would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney at the number listed below.

Applicants do not believe that any fee is due at this time. However, in the event that any additional fees are due, the Commissioner is authorized to debit deposit account number 01-1375 for the amount due. Also, the Commissioner is authorized to credit any overpayment with regard to the present response to deposit account number 01-1375.

Respectfully submitted,

/Elwood Leonard Haynes/
Elwood Leonard Haynes
Registration No. 55,254

Date: June 22, 2009
Air Liquide
2700 Post Oak Blvd., Suite 1800
Houston, Texas 77056
Phone: (713) 624-8952
Fax: (713) 624-8950